

## JEODI WORKSHOP

### Preparing for Scientific Ocean Drilling in the Arctic: The Site Survey Challenge

Copenhagen, Denmark, January 13 – 14, 2003

#### Major recommendations

The scientific importance of Arctic deep-sea drilling for paleoceanographic, climatic and tectonic goals is well understood, but the lack of adequate site survey data hampers the development of mature drilling proposals. Potential drilling locations were discussed for all major ridges (Gakkel Ridge, Lomonosov Ridge, Alpha - Mendeleev Ridge) as well as for the continental margins and marginal plateaus. The workshop participants recommended a decadal program of dedicated expeditions to the central Arctic with the aim to complete site surveys over areas of potential drill sites. A letter will be written by the workshop organisers to all operators of scientific platforms and of the necessary geophysical equipment to request action for including site survey activities into their planning.

While no actual drill site proposals can be developed in the central Arctic Ocean at the present time due to the lack of suitable site data (with the exception of the Lomonosov Ridge proposal), the situation is far better for the Arctic continental margin and marginal plateau areas. The workshop participants encouraged geophysical working groups on the Yermak Plateau, the Chukchi Plateau - Northwind Ridge and Laptev Sea continental margin to formulate and submit preliminary drilling proposals.

Whereas scientific expeditions to the Arctic Ocean have been organized for the past 25 years mostly on an ad hoc basis, they have lacked long term, international well-coordinated planning procedures. For the benefit of costly site surveys, which often require two-ship operations, this process has to change into a detailed and well-coordinated planning procedure where results should be reviewed in regular annual or biannual intervals. The Arctic Science Summit Week will provide a suitable venue for such reviewing.

The upcoming IPY in 2007 would offer a superb opportunity for operating a suite of expeditions to the central Arctic Ocean to conduct systematic site surveys over selected segments of the Alpha - Mendeleev Ridge Complex (the AMEX expedition), employing suitable icebreakers from US, Canada, Russia, Sweden, Finland and Germany.

Recognising that Arctic Ocean geoscientific data relevant for site surveys are presently dispersed over many institutions and countries the workshop participants recommended the establishment of a data base to collect all data in a unified and easily accessible format.

Site survey technology is under constant development; many of the available technologies have to be adopted for use in the ice-covered Arctic waters. The workshop participants recommended to request from iSSP, iILP and iTAP the establishment of an IODP working group focussing on the development of site survey strategies for the Arctic Ocean. This should be brought to the attention of the three panel chairs soon, in order to be brought up on the agenda for the Panel Chairs meeting in March 2003.

Drilling technology for ice-covered deep-sea basins has yet to be tested. Proposals for drill ships, capable to operate in the central Arctic were discussed and the workshop participants

encouraged further development of the plans.

There is a major need for communication within the Arctic geoscientific community. The workshop participants recommended a follow-up workshop in 2 years time. The continuation of the communication can be organized by the existing NAD organisation, which is an associate program to ODP and which maintains a newsletter (The Nansen Icebreaker).

The workshop participants recommended publication of the detailed workshop results in the Bulletin of the Geological Survey of Denmark and Greenland.